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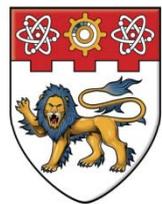
SINGAPORE ECONOMIC POLICY FORUM 2009

The Singapore Growth Model: Too Much Volatility?

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The material for this presentation is based partly on:

K.M. Choy "Singapore's Changing Economic Model" in *Management of Success Revisited*, ed. Terence Chong (Singapore: Institute of Southeast Asian Studies, 2009, forthcoming).



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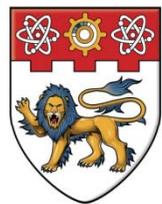
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The Singapore Growth Model

The much vaunted ‘Singapore growth model’ is based on free trade, an export-led economic development strategy, and an overwhelming dependence on international capital, technology and labour — all combined with an extensive role for the government.

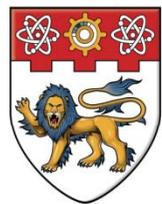
It has delivered high but **declining growth rates** as well as **severe volatility** in recent years.



Growth has slowed down . . .

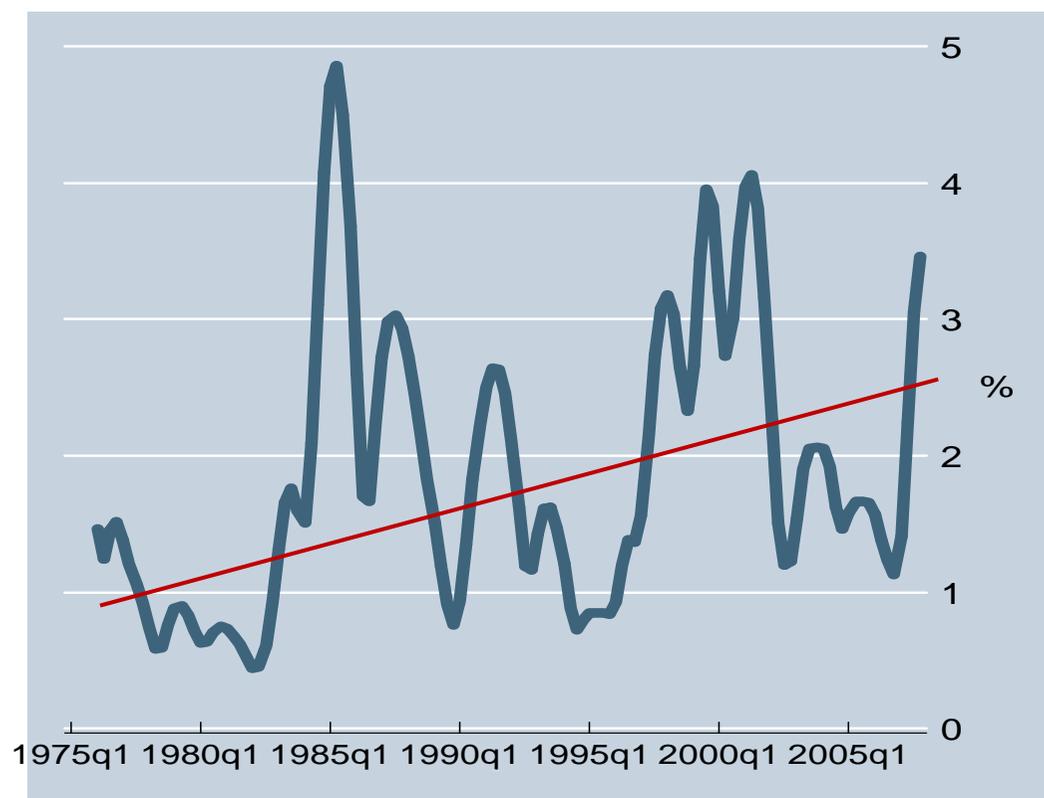
Period	Average Real GDP Growth (%)
1965–1985	9.2
1986–1990	8.5
1991–1997	8.6
1998–2003	3.6
2004–2008	6.8

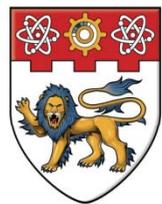
Source: Department of Statistics, Singapore



... while volatility has risen

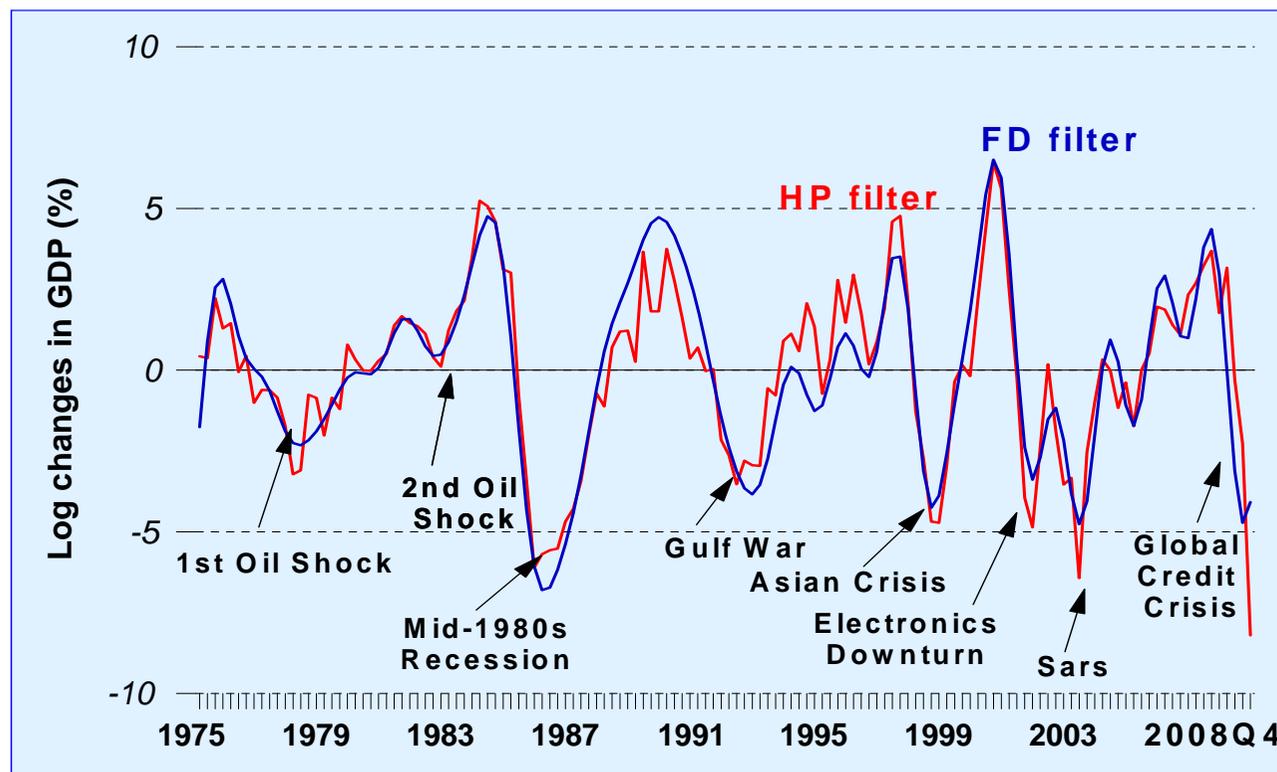
2-year rolling standard deviations of Singapore's GDP cycles



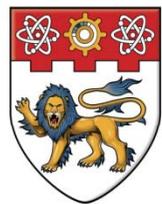


Business Cycles

Frequency domain filtered versus Hodrick-Prescott filtered GDP

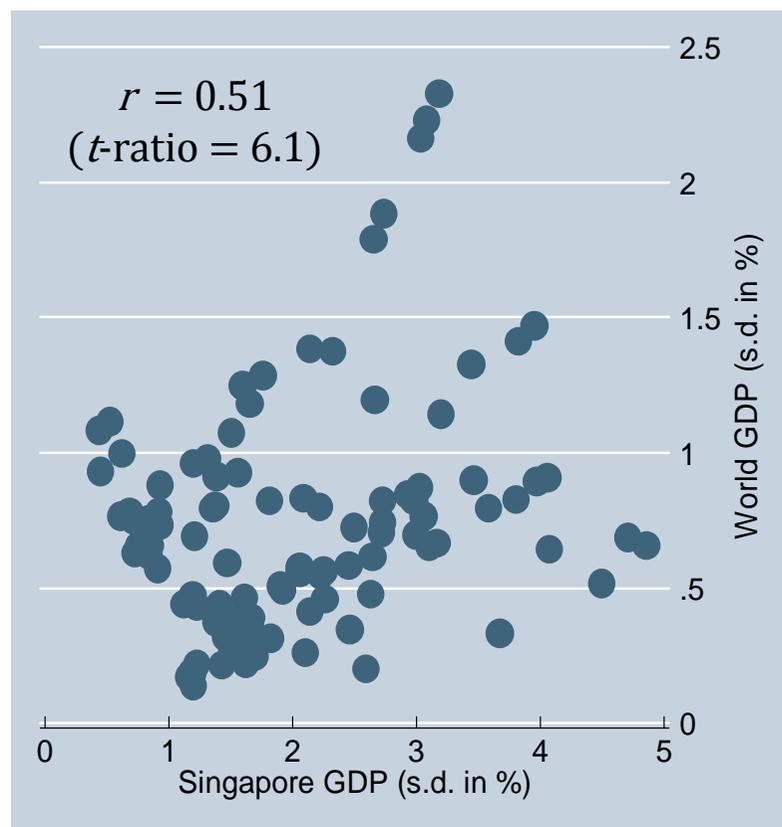


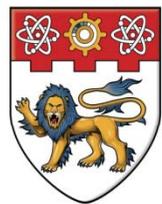
Source: MAS *Macroeconomic Review*, April 2009



Causes of Volatility I: World Economy

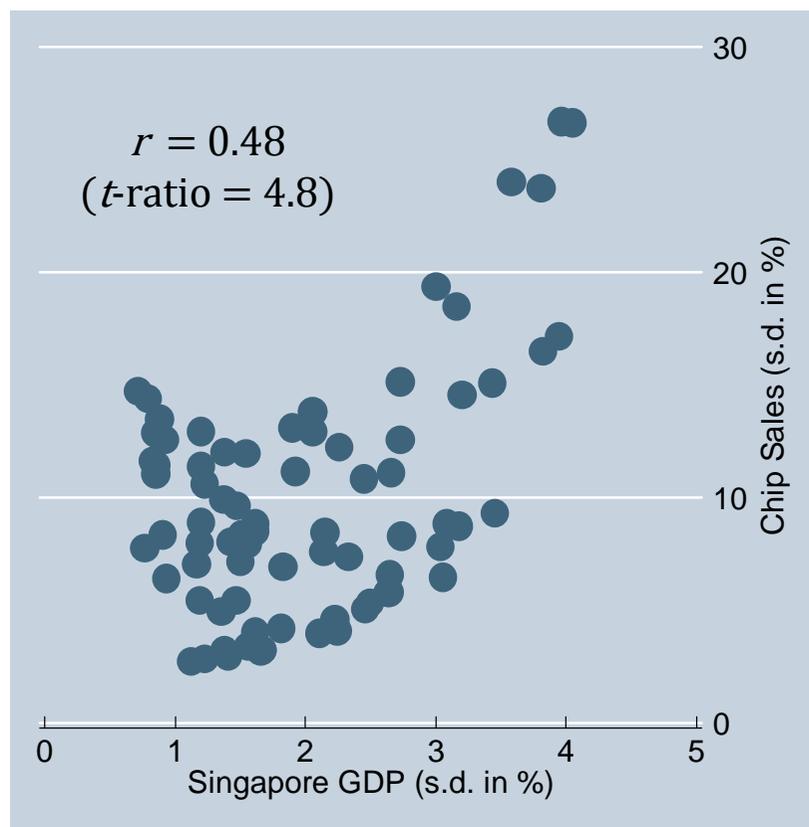
Correlation between std deviations of world and Singapore GDP cycles

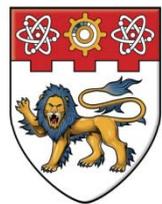




Causes of Volatility II: Electronics Cycles

Correlation between std deviations of global chip sales and Singapore GDP cycles





A Simple Regression

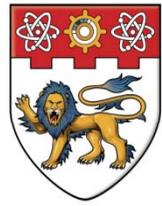
If we hypothesize that Singapore's economic volatility results from external fluctuations, a regression on rolling standard deviations yields:

$$GDP_SD = 0.00775 + 0.81308 WORLD_SD + 0.06405 CHIP_SD$$

(4.14) (4.66) (4.22)

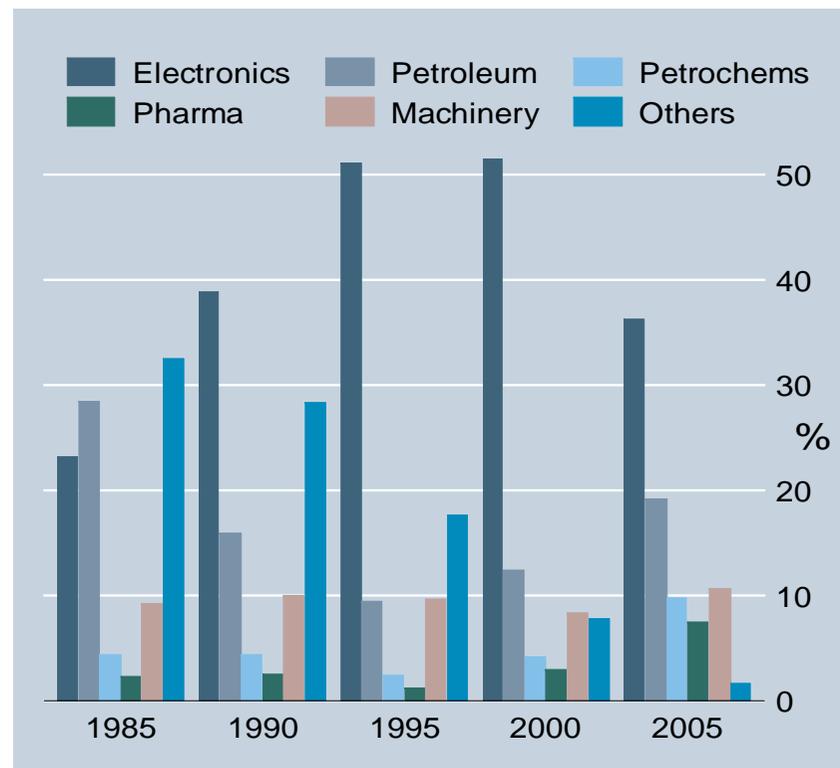
$$\bar{R}^2 = 0.3875 \quad S.E.E. = 0.007 \quad DW = 0.125$$

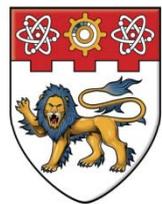
which implies that there are internal sources of instability.



Causes of Volatility III: Industrial Restructuring

Industry Share of Manufacturing Output, 1985–2005

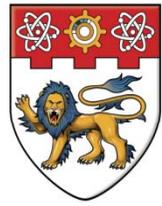




Causes of Volatility IV: Falling APC

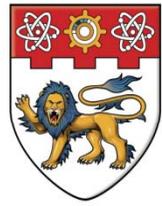
The ratio of consumption to GDP has fallen below 40%





Why is Economic Volatility Bad?

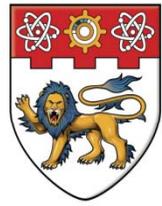
- Lucas (1987) argued that the welfare costs of business cycle volatility are second-order but recent studies suggest that such volatility undermines subjective well-being.
- Macroeconomic uncertainty affects growth adversely through reduced investment.
- Risk impacts negatively on consumption in the absence of complete insurance markets.
- Higher volatility is consistently associated with lower long-term economic growth (Ramey and Ramey, 1995).



Proposed Solution: The Services Sector

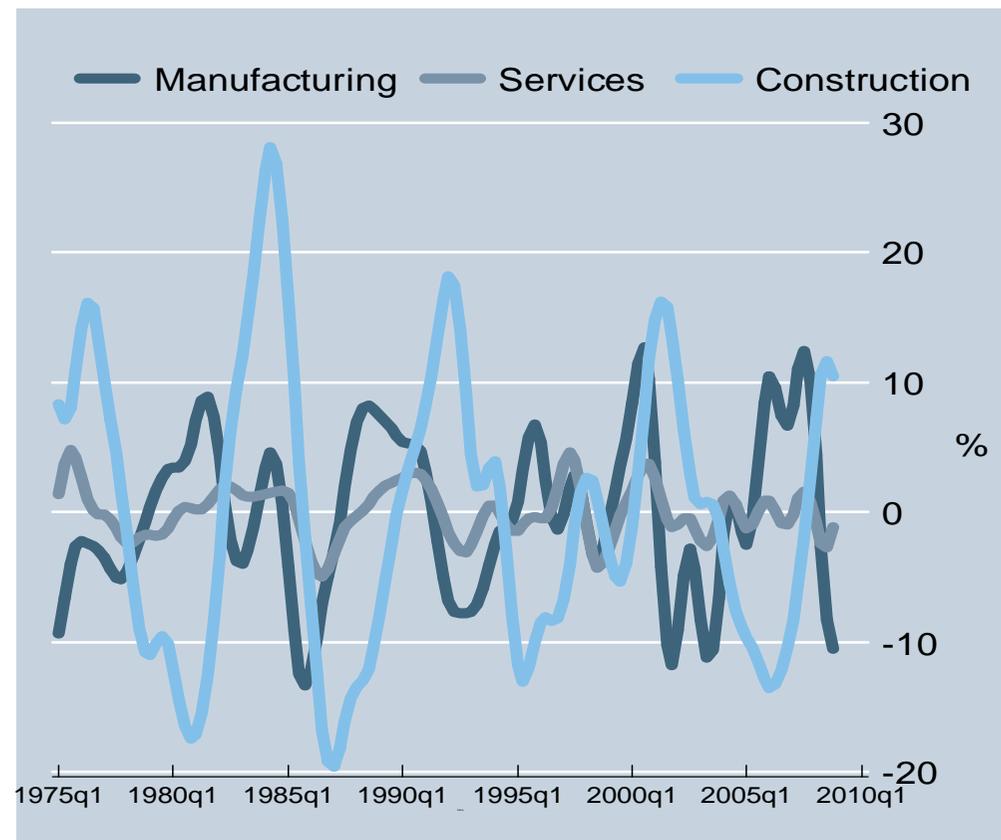
In the rest of this presentation, I will advance the argument that the **services sector** holds the key to mitigating economic volatility in Singapore because of certain inherent features of services output:

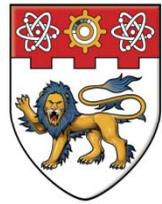
1. Lower sensitivity to business cycles.
2. It creates more employment, without compromising productivity growth.
3. Stimulates domestic demand, thus reducing the economy's dependence on foreign demand.
4. Tradable services are more responsive to monetary policy.



Sectoral Business Cycles

Services cycles are much milder than those in manufacturing and construction



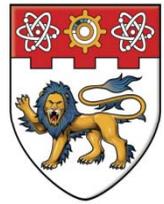


Debunking the Productivity Myth

Productivity in services is comparable to that in manufacturing

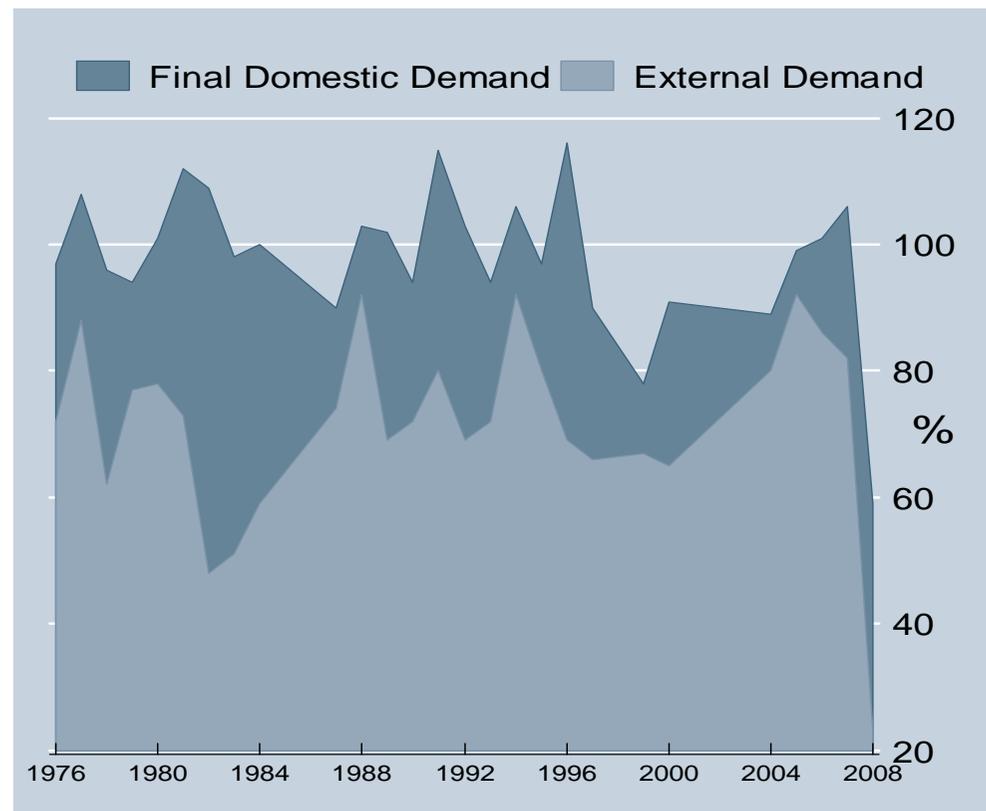
Period	Manufacturing		Services	
	Employment Growth (%)	Productivity Growth (%)	Employment Growth (%)	Productivity Growth (%)
1980–1990	2.4	5.1*	3.2	5.2*
1992–1997	0.3	6.7	4.9	4.6
1998–2003	-0.9	5.4	3.0	0.9
2004–2008	6.9	0.5	5.9	1.3

Source: * from *MAS Occasional Paper No. 5*, 1998

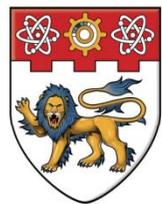


Domestic versus External Demand

External demand contributes $\frac{3}{4}$ of growth in aggregate demand

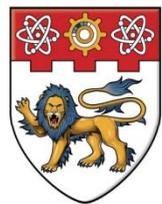


Source: Department of Statistics, Singapore



Rebalancing Domestic Demand

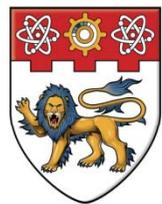
- The development of the services sector should stimulate private consumption from the supply side, with an ever-growing local population ensuring that demand will rise in tandem.
- A higher consumption ratio provides a built-in stabilizer in recessions and helps to dampen output volatility.
- Domestic demand can be boosted in the medium-term by raising Singaporeans' wealth eg. through handing out shares in GLC's.



A Potent Monetary Policy

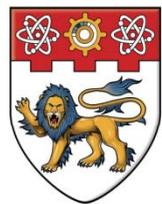
Quote from Choy (2009):

“The development of a heterogeneous and diversified service sector offers the prospect that monetary policy will be a potent tool for mitigating economic fluctuations, as a result of the greater sensitivity of tradable services to exchange rate movements. Since exportable services have much higher domestic value-added and lower import content compared to manufactured goods, theory predicts and empirical evidence confirms that a currency depreciation stimulates the foreign demand for services much more than it does commodity exports.”



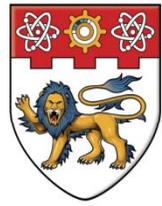
Changing Mindsets

1. Economic bureaucrats ought to shed their long-held bias in favour of industry (‘manufacturing is special’) — where Singapore has little comparative or competitive advantages.
2. Workers should drop the perception that (non-financial) service jobs are unglamorous.
3. Service firms in the financial wealth management, tourism, tertiary education and medical treatment industries must seek out markets for export in the region and beyond.



What Can the Government Do?

- Offer greater tax incentives to large service sector companies, including those which are locally-owned.
- Reduce start-up costs for small businesses by simplifying approval procedures and lowering government-controlled rentals.
- Subsidize the advertising expenditures of educational institutions in overseas markets.
- Allocate state land at below-market prices for building private medical centres and hospitals.



The Future Lies in Services

- With two-thirds of the nation's total output generated through services and a similar proportion of employed persons working in service activities, Singapore is already a 'service economy'.
- Rising shares of service industries in output and employment are consistent with the **Fisher-Clark hypothesis** postulating that as income levels improve over time, the demand for services will gradually predominate.
- The output share of the service sector is likely to rise further in the future to 70% with a concomitant decline in the contribution of manufacturing industries.